UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
QUIETT, CARRAMAH J

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>22 January 2010</u>.
2a) ☒ This action is **FINAL.**   2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-32,57-85 and 89-104</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-32,57-85 and 89-104</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on <u>04 February 2004</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   The amendment(s), filed on 01/22/2010, have been entered and made of record. Claims 1-32, 57-85 and 89-104 are pending.

Response to Arguments

2.   Applicant's arguments with respect to claims 1-32, 57-85 and 89-104 have been considered but are moot in view of the new ground(s) of rejection.

Information Disclosure Statement

3.   The information disclosure statement (IDS), filed on 01/22/2010 and 02/10/2010, has been placed in the application file, and the information referred to therein has been considered as to the merits.

Claim Objections

4.   **Claim 57** is objected to because of the following informalities: In the Claims filed on 01/22/2010 and 07/13/2009, claim 57 is recited as "A method of filtering a red eye phenomenon…" However, in the Claims filed on 02/17/2009, claim 57 is recited as, "*one or more processor-readable media having code embedded therein for programming a processor to perform* a method of filtering a red eye phenomenon…" Respectfully, Applicant has not properly crossed out the limitations that are included or not included in claim 57. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5.   The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6.   **Claims 1-27, 29-32, 57-77, 79-85, and 89-104** are rejected under 35 U.S.C. 103(a) as being unpatentable over Benati et al. (U.S. Pat. #5748764) in view of Sobel et al. (U.S. Pat. #6,300,935) and Malloy Desormeaux (U.S. Pat. #6,501,911).

For **claim 1**, Benati discloses a digital apparatus comprising a red-eye filter for modifying an area within a digital image acquired by the apparatus, the area being indicative of a red-eye phenomenon, the modifying being based on detecting the red eye phenomenon including analyzing the subsample resolution representation of selected regions of said digital image, wherein the subsample resolution representation comprises an eye region suspected as indicative of red eye (col. 5, lines 27-36), and wherein a degree of said subsampling is based on a complexity of calculation of the red-eye filter (col. 4, line 51 – col. 5, line 36; col. 5, line 38 – col. 6, line 15) and on an analysis of meta-data (bit map) information (figs. 2-4; col. 3, lines 46-62; col. 4, lines 17-45).

However, Benati does not expressly disclose a *portable* digital camera apparatus and subsampling is based on data obtained from the camera relating to image processing analysis of a precapture image.

In a similar field of endeavor, Soble discloses a *portable* digital camera apparatus that removes red eye (col. 6, lines 8-14; col. 8, lines 30-49; figs. 1-2). In light of the teaching of Soble, it would have been obvious to one of ordinary skill in the art at the time the invention was

made to modify the digital camera apparatus with a portable digital camera apparatus in order

enable a user to adjust the settings of the camera when the user wants to be mobile (Sobel col. 8,

lines 30-49).

In a similar field of endeavor, Malloy Desormeaux discloses subsampling is based on

data obtained from the camera relating to image processing analysis of a precapture image (col.

16, line 48 -- col. 17, line 35). In light of the teaching of Malloy Desormeaux, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to modify the

apparatus with subsampling is based on data obtained from the camera relating to image

processing analysis of a precapture image in order to adjust the brightness of the image (Malloy

Desormeaux col. 16, line 48 -- col. 17, line 35).

For **claim 2**, Benati, as modified by Soble and Malloy Desormeaux, discloses the

apparatus of claim 1, wherein the analysis is performed at least in part for determining said area

(col. 3, line 63 – col. 4, line 16).

For **claim 3**, Benati, as modified by Soble and Malloy Desormeaux, discloses the

apparatus of claim 1, wherein the analysis is performed at least in part for determining said

modifying (col. 3, line 63 – col. 4, line 16).

For **claim 4**, Benati, as modified by Soble and Malloy Desormeaux, discloses the

apparatus of claim 1, wherein said selected regions of said digitized image comprise the entire

image (col. 3, lines 24-45).

For **claim 5**, Benati, as modified by Soble and Malloy Desormeaux, discloses the

apparatus of claim 1, wherein said selected regions of said digitized image comprise multi

resolution encoding of said image (col. 7, lines 8-35). Also, see fig. 4.

For **claim 6**, Benati, as modified by Soble and Malloy Desormeaux, discloses the apparatus of claim 1, wherein at least one region of the entire image is not included among said selected regions of said image (col. 3, line 63 – col. 4, line 16; col. 4, line 51 – col. 5, line 21).

For **claim 7**, Benati, as modified by Soble and Malloy Desormeaux, discloses the apparatus of claim 1, wherein said analysis is performed in part on a full resolution image and in part on a subsample resolution of said digital image (col. 7, lines 8-35). Also, see fig. 4.

For **claim 8**, Benati, as modified by Soble and Malloy Desormeaux, discloses the apparatus of claim 1, further comprising a module for changing the degree of said subsampling (col. 4, line 51 – col. 5, line 21).

For **claim 9**, Benati, as modified by Soble and Malloy Desormeaux, discloses the apparatus of claim 8, wherein said changing the degree of said subsampling is determined empirically (col. 4, lines 6-16).

For **claim 10**, Benati, as modified by Soble and Malloy Desormeaux, discloses the apparatus of claim 8, wherein said changing the degree of said subsampling is determined based on a size of said image (col. 7, lines 8-35).

For **claim 11**, Benati, as modified by Soble and Malloy Desormeaux, discloses the apparatus of claim 8, wherein said changing the degree of said subsampling is determined based on a size of selected regions of the image (col. 7, lines 8-35).

For **claim 12**, Benati, as modified by Soble and Malloy Desormeaux, discloses the apparatus of claim 8, wherein said changing the degree of said subsampling is determined based on data obtained from the camera relating to the settings of the camera at the time of image capture (figs. 2-4; col. 3, lines 24-62; col. 4, lines 17-45).

For **claim 13**, Benati, as modified by Soble and Malloy Desormeaux, discloses the

apparatus of claim 12, wherein the data obtained from the camera includes an aperture setting or

focus of the camera, or both (Malloy Desormeaux col. 16, line 48 -- col. 17, line 35).

For **claim 14**, Benati, as modified by Soble and Malloy Desormeaux, discloses the

apparatus of claim 12, wherein the data obtained from the camera includes the distance of the

subject from the camera (Malloy Desormeaux col. 16, line 48 -- col. 17, line 35).

For **claim 15**, Benati, as modified by Soble and Malloy Desormeaux, discloses the

apparatus of claim 8, wherein said changing the degree of said subsampling is determined based

on digitized image metadata (bit map) information (col. 4, lines 17-45).

For **claim 16**, Benati, as modified by Soble and Malloy Desormeaux, discloses the

apparatus of claim 8, wherein said modifying the area is performed including the full resolution

of said digital image (col. 7, lines 8-35).

For **claim 17**, Benati, as modified by Soble and Malloy Desormeaux, discloses the

apparatus of claim 8, wherein said red-eye filter comprises of a plurality of sub filters (fig. 2, col.

3, lines 46-62).

For **claim 18**, Benati, as modified by Soble and Malloy Desormeaux, discloses the

apparatus of claim 17, wherein said subsampling for said sub filters operating on selected regions

of said image is determined by one or more of the image size (fig. 2, col. 3, lines 46-62; col. 7,

lines 8-35), suspected as red eye region size (col. 3, line 63 – col. 4, line 16; col. 4, line 51 – col.

5, line 21), filter computation complexity (col. 4, line 51 – col. 5, line 36; col. 5, line 38 – col. 6,

line 15), empirical success rate of said sub filter (col. 4, lines 6-16), empirical false detection rate

of said sub filter (col. 3, line 63 – col. 4, line 16; col. 4, line 51 – col. 5, line 21), falsing

probability of said sub filter (col. 3, line 63 – col. 4, line 16; col. 4, line 51 – col. 5, line 21),

relations between said suspected regions as red eye, results of previous analysis of other said sub

filters, or combinations thereof. (col. 5, line 38 – col. 6, line 15).

For **claim 19**, Benati, as modified by Soble and Malloy Desormeaux, discloses the

apparatus of claim 1, further comprising memory for saving said digitized image after applying

said filter for modifying pixels as a modified image (col. 3, lines 24-35).

For **claim 20**, Benati, as modified by Soble and Malloy Desormeaux, discloses the

apparatus of claim 1, further comprising memory for saving said subsample resolution

representation of said image (col. 3, lines 24-35).

For **claim 21**, Benati, as modified by Soble and Malloy Desormeaux, discloses the

apparatus of claim 1, wherein said subsample resolution representation of selected regions of

said image is determined in hardware (col. 3, lines 24-46).

Claims 22, 23, 24, 25, and 26 are method claims corresponding to method claims 5, 7,

10, and 11 respectively. Therefore, claims 22, 23, 24, 25, and 26 are analyzed and rejected as

previously discussed with respect to claims 7, 8, 9, 10, and 11, respectively.

For **claim 27**, Benati, as modified by Soble and Malloy Desormeaux, discloses the

apparatus of claim 23, wherein said changing the degree of said subsampling is determined based

on a complexity of calculation for said filter (col. 4, line 51 – col. 5, line 36; col. 5, line 38 – col.

6, line 15).

For **claim 29**, Benati, as modified by Soble and Malloy Desormeaux, teaches the

apparatus of claim 1, further comprising determining said subsample representation (Benati figs.

2-4; col. 3, lines 46-62; col. 4, lines 17-45) using bi-cubic interpolation (Soble, col. 8, line 60 – col. 9, line 8).

Claims 30 –32 are apparatus claims corresponding to apparatus claims 16-18, respectively. Therefore, claims 30-32 are analyzed and rejected as previously discussed with respect to claims 16-18, respectively.

For **claim 57**, Benati teaches *one or more processor-readable media having code embedded therein for programming a processor to perform* a method of filtering a red eye phenomenon from a digital image captured by a digital camera device, comprising a multiplicity of pixels indicative of color, the method comprising using a processor of the digital camera device in determining whether one or more regions within a subsample resolution representation of said digitized image are suspected as including red eye artifact wherein the subsample resolution representation comprises an eye region suspected as indicative of red eye, and wherein a degree of subsampling is based on a complexity of calculation of the red-eye filter (col. 4, line 51 – col. 5, line 36; col. 5, line 38 – col. 6, line 15) and on an analysis of meta-data (bit map) information (figs. 2-4; col. 3, lines 46-62; col. 4, lines 17-45), and correcting within the digital camera device the red eye artifact within the one or more regions.

However, Benati does not expressly disclose a *portable* digital camera device and subsampling is based on data obtained from the *portable* digital camera device relating to image processing analysis of a precapture image, and correcting within the *portable* digital camera device the red eye artifact.

In a similar field of endeavor, Soble discloses a *portable* digital camera device correcting within the *portable* digital camera device the red eye artifact (col. 6, lines 8-14; col. 8, lines 30-

49; figs. 1-2). In light of the teaching of Soble, it would have been obvious to one of ordinary

skill in the art at the time the invention was made to modify the method of Benati with the

method of Sobel in order enable a user to adjust the settings of the camera when the user wants

to be mobile (Sobel col. 8, lines 30-49).

In a similar field of endeavor, Malloy Desormeaux discloses subsampling is based on

data obtained from the *portable* digital camera device relating to image processing analysis of a

precapture image (col. 16, line 48 -- col. 17, line 35). In light of the teaching of Malloy

Desormeaux, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the method with subsampling is based on data obtained from the

portable camera relating to image processing analysis of a precapture image in order to adjust

the brightness of the image (Malloy Desormeaux col. 16, line 48 -- col. 17, line 35).

For **claim 58**, Benati, as modified by Soble and Malloy Desormeaux, teaches the one or

more processor-readable media the method of claim 57, wherein the method further comprising

varying a degree of the subsampling for each region of said one or more regions based on said

image (col. 3, lines 24-45).

For **claim 59**, Benati, as modified by Soble and Malloy Desormeaux, teaches the one or

more processor-readable media the method of claim 57, wherein the method further comprising

generating the subsample resolution representation based on said image (col. 4, line 51 – col. 5,

line 21).

For **claim 60**, Benati, as modified by Soble and Malloy Desormeaux, teaches the one or

more processor-readable media the method of claim 57, wherein the method further comprising

generating the subsample resolution representation utilizing a hardware-implemented

subsampling engine (col. 3, lines 46-62).

For **claim 61**, Benati, as modified by Soble and Malloy Desormeaux, teaches the one or

more processor-readable media the method of claim 57, wherein the method further comprising

testing one or more regions within said subsample resolution representation determined as

including red eye artifact for determining any false redeye groupings (col. 3, line 63 – col. 4, line

16; col. 4, line 51 – col. 5, line 21).

For **claim 62**, Benati, as modified by Soble and Malloy Desormeaux, teaches the one or

more processor-readable media the method of claim 57, wherein the method further comprising

(c) associating said one or more regions within said subsample resolution representation

of said image with one or more corresponding regions within said image (col. 4, line 51 – col. 5,

line 21); and

(d) modifying said one or more corresponding regions within said image (col. 7, lines 8-

35).

For **claim 63**, Benati, as modified by Soble and Malloy Desormeaux, teaches the one or

more processor-readable media the method of claim 57, wherein the method wherein the

determining comprises analyzing meta-data information including image acquisition device-

specific information (col. 4, lines 17-45).

For **claim 64**, Benati, as modified by Soble and Malloy Desormeaux, teaches the one or

more processor-readable media the method of claim 57, wherein the method further comprising

analyzing the subsample resolution representation of selected regions of said digitized image,

and modifying an area determined to include red eye artifact (col. 3, lines 24-45).

Claims 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76 and 77 are the one or more

processor-readable media claims corresponding to apparatus claims 2, 3, 4, 5, 6, 7, 8, 9, 10, 11,

19, 20, and 21, respectively. Therefore, claims 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76 and

77 are analyzed and rejected as previously discussed with respect to claims 2, 3, 4, 5, 6, 7, 8, 9,

10, 11, 19, 20, and 21, respectively.

Claim 79 is a method claims corresponding to apparatus claim 29. Therefore, claim 78 is

analyzed and rejected as previously discussed with respect to claim 29.

Claims 80-82 are the method claims corresponding to apparatus claims 16-18,

respectively. Therefore, claims 80-82 are analyzed and rejected as previously discussed with

respect to claims 16-18, respectively.

For **claim 83**, Benati, as modified by Soble and Malloy Desormeaux, teaches the

apparatus of claim 1, wherein the metadata information comprises image acquisition device-

specific metadata (col. 4, lines 17-45).

For **claim 84**, Benati, as modified by Soble and Malloy Desormeaux, teaches the

apparatus of claim 83, wherein the metadata information comprises digitized image metadata

(col. 4, lines 17-45).

Claim 85 is a method claims corresponding to method claim 84. Therefore, claim 85 is

analyzed and rejected as previously discussed with respect to claim 84.

For **claim 89**, Benati, as modified by Soble and Malloy Desormeaux, teaches the one or

more processor-readable media the method of claim 57, wherein the analysis of metadata

information comprises analysis of digitized image meta-data (col. 4, lines 17-45).

Claims 90-91 are the one or more processor-readable media claims each corresponding to method claim 89. Therefore, claims 90-91 are analyzed and rejected as previously discussed with respect to claim 89.

For **claim 92**, Benati, as modified by Soble and Malloy Desormeaux, discloses the apparatus of claim 1, wherein said image processing analysis is based on histogram data obtained from said pre-capture image (Malloy Desormeaux col. 16, line 48 -- col. 17, line 35).

For **claim 93**, Benati, as modified by Soble and Malloy Desormeaux, discloses the apparatus of claim 1, wherein said image processing analysis is based on color correlogram data obtained from said pre-capture image (Malloy Desormeaux col. 16, line 48 -- col. 17, line 35).

For **claim 94**, Benati, as modified by Soble and Malloy Desormeaux, discloses the apparatus of claim 1, wherein said image processing analysis is based on global luminance or white balance image data, or both, obtained from said pre- capture image (Malloy Desormeaux col. 16, line 48 -- col. 17, line 35).

For **claim 95**, Benati, as modified by Soble and Malloy Desormeaux, discloses the apparatus of claim 1, wherein said image processing analysis is based on face detection analysis of said pre-capture image (Benati col. 4, line 51 – col. 5, line 36; col. 5, line 38 – col. 6, line 15) (Malloy Desormeaux col. 16, line 48 -- col. 17, line 35).

For **claim 96**, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 1, wherein said image processing analysis is based on determining pixel regions with a color characteristic indicative of redeye (Benati col. 4, line 51 – col. 5, line 36; col. 5, line 38 – col. 6, line 15).

For **claim 97**, Benati, as modified by Soble and Malloy Desormeaux, discloses the

apparatus of claim 1, wherein said image processing analysis is performed in hardware (Benati

col. 3, lines 24-46).

Claims 98-103 are the one or more processor-readable media claims corresponding to

apparatus claims 90-97. Therefore, claims 98-103 are analyzed and rejected as previously

discussed with respect to claims 90-97.

For **claim 104**, Benati teaches a method of filtering a red eye phenomenon from a digital

image acquired with a digital camera, the digital image comprising a multiplicity of pixels

indicative of color, the method comprising using a processor on the digital camera device for

determining whether one or more regions within a subsample representation of said digital image

are suspected as including red eye artifact, wherein the subsample representation comprises an

eye region suspected as indicative of red eye (col. 5, lines 27-36), and wherein a degree of said

subsampling is based upon a complexity of calculation of a red-eye filter (col. 4, line 51 – col. 5,

line 36; col. 5, line 38 – col. 6, line 15) and on an analysis of meta-data (bit map) information

each performed on the digital camera device (figs. 2-4; col. 3, lines 46-62; col. 4, lines 17-45).

However, Benati does not expressly disclose a *portable* digital camera device and

subsampling is based on data obtained from the *portable* digital camera device relating to image

processing analysis of a precapture image.

In a similar field of endeavor, Soble discloses a *portable* digital camera device that

removes red eye (col. 6, lines 8-14; col. 8, lines 30-49; figs. 1-2). In light of the teaching of

Soble, it would have been obvious to one of ordinary skill in the art at the time the invention was

made to modify the method of Benati with the method of Sobel in order enable a user to adjust

the settings of the camera when the user wants to be mobile (Malloy Desormeaux col. 16, line 48

-- col. 17, line 35).

In a similar field of endeavor, Malloy Desormeaux teaches subsampling is based on data

obtained from the camera relating to image processing analysis of a precapture image (col. 16,

line 48 -- col. 17, line 35). In light of the teaching of Malloy Desormeaux, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to modify the

method with subsampling is based on data obtained from the camera relating to image processing

analysis of a precapture image in order to adjust the brightness of the image (Malloy

Desormeaux col. 16, line 48 -- col. 17, line 35).

7.   **Claims 28 and 78** are rejected under 35 U.S.C. 103(a) as being unpatentable over Benati

et al. (U.S. Pat. #5748764) in view of Sobel et al. (U.S. Pat. #6,300,935) and Malloy

Desormeaux (U.S. Pat. #6,501,911) as applied to claim 5 above, and further in view of

Nicponski (U.S. Pat. 5974189).

For **claim 28**, Benati, as modified by Soble and Malloy Desormeaux, teaches the

apparatus of claim 1 further comprising determining said subsample resolution representation

(figs. 2-4; col. 3, lines 46-62; col. 4, lines 17-45). However, Benati does not expressly teach

determining said subsample resolution representation using spline interpolation.

In a similar field of endeavor, Nicponski teaches determining said subsample resolution

representation using spline interpolation (col. 7, lines 27-31). In light of the teaching of

Nicponski, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to modify the method using spline interpolation in order to enable improved

enhancement effects on the image such as shadows, glows, etc. (Nicponski, Abstract).

Claim 78 is a method claim corresponding to apparatus claim 28. Therefore, claim 78 is

analyzed and rejected as previously discussed with respect to claim 28.

Conclusion

8.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Carramah J. Quiett whose telephone number is (571)272-7316.

The examiner can normally be reached on 10:00 am - 6:00 pm, Monday thru Friday.

     If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David L. Ometz can be reached on (571)272-7593. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

     Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

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like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. J. Q./
Examiner, Art Unit 2622
April 22, 2010
/Jason Chan/
Supervisory Patent Examiner, Art Unit 2622